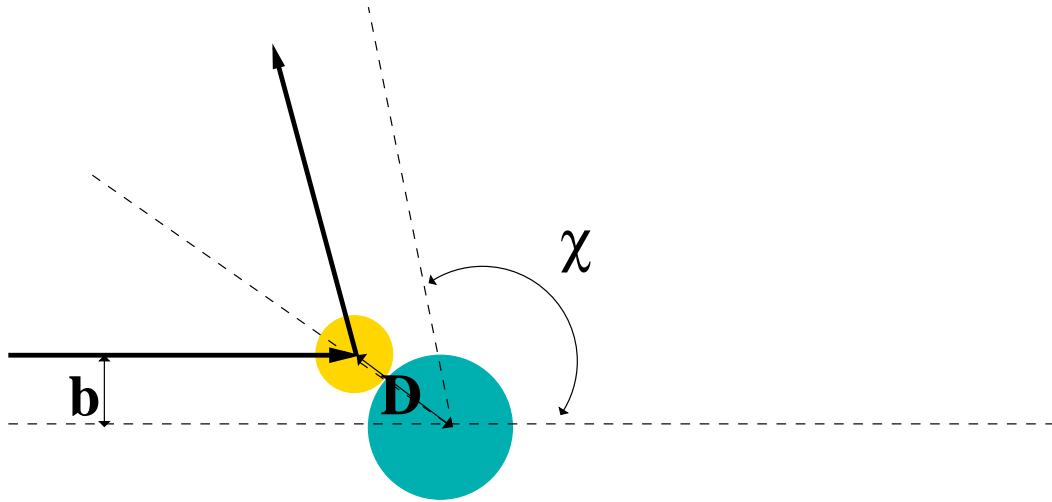


# PHY 711 – Assignment #1

August 28, 2007



1. In class, we showed that the relationship between the impact parameter  $b$  and the scattering angle  $\chi$  for elastic scattering between two hard spheres has the form:

$$b = D \cos\left(\frac{\chi}{2}\right).$$

Using the above diagram which shows the geometry of two hard spheres at the moment of impact, derive this formula.